



Safety recommendation no. 6

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Safety deficit	<p>The CTSW aircraft is an ultralight aircraft; in Switzerland, it is licenced in the 'ecolight' subcategory. The weather conditions at the time of the accident were windy. The approach was made with a flap position of 40°. The Swiss Transportation Safety Investigation Board determined that, among other things, the approach speed chosen by the pilot was too low and a causal factor in the accident. The pilot stated in the course of the investigation that he had normally flown at a speed of 85 to 90 km/h in the last part of a final approach for landings with flaps at 40°, and at about 90 to 95 km/h in turbulent conditions. As justification for this speed he referred to the rule which states that the approach speed is 1.3 times the stall speed in the landing configuration (VS0). In the present case, this equates to around 85 km/h. The self-compiled checklist used by the pilot required an approach speed of between 80 and 90 km/h with flaps at 40°. The approach speed calculated retrospectively from the available data was constantly around 80 km/h; about 20 km/h below the approach speed of "approx. 100 km/h" specified in the flight and maintenance manual. Given the prevailing wind conditions, the established practice of increasing the approach speed by a third of the wind speed during strong headwind would have supported an approach speed of between 105 and 110 km/h.</p>
Safety recommendation	<p>The widespread rule in aviation that the approach speed is 1.3 times the stall speed in the landing configuration (VS0) is only partially applicable to aircraft of comparatively low mass – especially ecolight or ultralight aircraft. The relationship between momentum and air resistance implies a higher approach speed for such aircraft than that which results from the rule. In addition, this rule should only be used if the aircraft manufacturer does not specify an approach speed.</p>
Investigation report concerning the safety recommendation	<u>Schlussbericht</u>